DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 21 December 2009 has been entered.

Specification Objections

2. The disclosure is objected to because of the following informalities: The instant specification employs the term "carbohydrate" in regards to the fuel and/or vapor within the motor vehicle fuel tank. The correct term is "hydrocarbon."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 3, 5-9, 11, 12 and 14-19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), ***at the time the application was filed*** (emphasis added),

had possession of the claimed invention. There is no support or enablement in the instant application at the time was filed regarding the term "metaillization," nor in relation to the metallization being "on the substrate." These terms/limitations recited in independent claims 1, 3, 7 and 9 are therefore considered to be new matter which was not disclosed in the application originally filed.

5. Claims 3, 5-9, 11, 12, 14, 15, 17 and 18 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The limitation of "measure/measuring a fluid level in a motor vehicle fuel tank" and specific elements associated therewith which are critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). The instant disclosure states that the modules mounted on the substrate "may incorporate passive electronic modules, active electronic chips, magnetically driven chips, such as those that are based on the Hall-effect, chips that operate on the basis of ultrasound for measuring fuel level, and other," as well as instant claims 6, 12 and 15 which recite magnetically or ultrasound driven circuits for measuring the fuel level. The instant disclosure fails to disclose the associated elements, either within the modules/circuits, and any other associate elements which may exist outside of the claimed elements that result in a measurement of a fuel level within the motor vehicle tank, thus failing to enable one of ordinary skill in the art to make and/or use the instant invention to determine a fuel level within the motor vehicle tank.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. As best understood, claims 1, 3, 7-9 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,490,920 to Netzer and US 3,950,653 to Kirkpatrick. Netzer discloses a method of manufacturing an electronic circuit arrangement and the electronic circuit for measuring a fuel level within a motor vehicle fuel tank including arranging electronic modules on a substrate (Cc1 and Cc2); fixating the substrate with respect to a fuel tank wall (Netzer: col. 1, lines 50-55; col. 4, lines 1-5, 30-35) (as recited in claims 16-19); and soldering (note: soldering is defined in the most broadest reasonable interpretation as "joining" or "uniting") a metal cap to the substrate to form an encapsulated space, the modules being disposed in the encapsulated space and separated from any fuel or vapor outside the encapsulated space (Netzer, col. 9, lines 40-45) (as recited in claims 1, 3, 7 and 9); wherein the substrate includes one or more electrical through-connections to an outside of the fuel tank (Netzer: Figure 8a) (as recited in claim 8). Netzer does not specifically disclose that "no part of the electronic circuit arrangement is exposed to any fuel or vapor" as recited in claims (1, 3, 7 and 9). However, Netzer specifically discloses the "protection" of components from contact with the liquid/fuel) (Netzer, col. 9, lines 40-45). Kirkpatrick teaches a level measurement device employing an electronic circuit arrangement having a substrate (14) with multiple components (see Figs. 1 and 3) having wires exiting from the container wherein all components of the electronic circuit arrangement are prevented from exposure to the material (liquids, metals, granular organic materials; Kirkpatrick: col. 4, lines 63-67) being measured within the tank/container by a

housing (11) and cap (12) and is sealed. It would have been obvious to one having ordinary skill in the art at the time the invention was made to fully enclose all of the electronic circuit's elements and substrate, as taught by Kirkpatrick, modifying the electronic circuit arrangement disclosed by Netzer, resulting in a completely sealed probe that is uneffected by moisture, as well as being operable over a wide temperature range since calibration is not critical (Kirkpatrick: col. 4, line 67 to col. 5, line 2).

8. Claims 5, 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,490,920 to Netzer and US 3,950,653 to Kirkpatrick as applied to claims 1, 3, 7 and 9 above, and further in view of US 5,821,455 to Yamamoto. Netzer and Kirkpatrick disclose a method for manufacturing an electronic circuit and the circuit arrangement for measuring the fuel level in a motor vehicle fuel tank having all of the elements stated previously. Netzer and Kirkpatrick do not specifically disclose a ceramic substrate. Yamamoto disclose a ceramic substrate (Yamamoto: claim 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a ceramic substrate, as taught by Yamamoto, since fixing a lid/cap to a ceramic substrate prevents splashing onto the substrate (Yamamoto: col. 1, line s19-22). Furthermore, it would have been an obvious matter of design choice to employ any type of substrate, ceramic or otherwise, since applicant has not disclosed that a ceramic substrate solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any type of substrate made of any desired type of material, based on the application.

9. Claims 6, 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,490,920 to Netzer and US 3,950,653 to Kirkpatrick as applied to claims 1, 3, 7 and 9 above,

and further in view of Applicant's Disclosed Prior Art (hereinafter, ADPA). Netzer and Kirkpatrick disclose a method for manufacturing an electronic circuit and the circuit arrangement for measuring the fuel level in a motor vehicle fuel tank having all of the elements stated previously. Netzer and Kirkpatrick do not specifically disclose that one or more of the electronic modules are magnetically driven circuit or ultrasound circuit for effecting the measuring. ADPA states that physics-based measuring technologies (i.e. magnetic or ultrasonic) have been found advantageous in use (instant application: page 3, second para.). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ any type of "advantageous" electronic circuit components, including a magnetically driven or one employ ultrasonic capability, since Applicant has disclosed their advantageous use is known.

10. Claims 6, 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,490,920 to Netzer and US 3,950,653 to Kirkpatrick as applied to claims 1, 3, 7 and 9 above, and further in view of US 5,085,077 to Stapleton et al. Netzer and Kirkpatrick disclose a method for manufacturing an electronic circuit and the circuit arrangement for measuring the fuel level in a motor vehicle fuel tank having all of the elements stated previously. Netzer and Kirkpatrick do not specifically disclose that one or more of the electronic modules are magnetically driven circuit or ultrasound circuit for effecting the measuring. Stapleton et al. disclose an ultrasonic liquid measuring device (see Figs. 1 and 2) having a circuit board with components (50) which are sealed. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ an ultrasonic component, modifying the invention disclosed by Netzer and Kirkpatrick, thus providing a system capable of correcting for an error caused by non-uniform vapor density (Stapleton et al.: col. 2, lines 40-44).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is invited to review PTO form 892 accompanying this Office Action listing Prior Art relevant to the instant invention cited by the Examiner.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Fitzgerald whose telephone number is (571) 272-2843. The examiner can normally be reached on Monday-Friday from 7:00 AM to 3:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams, can be reached on (571) 272-2208. The central fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/John Fitzgerald/
Primary Examiner, Art Unit 2856
1/12/10